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ARIZONA STATE UNIVERSITY ■ COLLEGE OF BUSINESS
CENTER FOR BUSINESS RESEARCH

Valley's Winter Residents Spend $381 Million

An estimated 190,000 winter residents were living in the Phoenix metropolitan area at the height of the "snowbird" season in February. During the entire 1985-86 winter season, the Valley's temporary residents injected approximately $381 million into local economies. These figures, representing the first-ever estimates of total Valley snowbird population and expenditures, are derived from a survey by the Department of Economics and the Center for Business Research in the ASU College of Business and a separate survey by Western Savings.

An accurate count of winter visitors had been elusive because no governmental agency, such as the U.S. Census Bureau, tracks seasonal migration. Another impediment is the fact that winter residents, who are mainly retired and semi-retired people, live in a variety of accommodations and stay for varying lengths of time, with divergent arrival and departure dates. Nonetheless, both public officials and local business managers maintain a strong interest in gathering information about the Valley's winter resident population. They are concerned with the migrants' seasonal impact on business, highways, health care, and public and private facilities.

THE SURVEYS

Beginning in February 1984, researchers from the ASU Department of Economics and the Center for Business Research utilized limited resources to survey the winter residents of mobile home and travel trailer/recreational vehicle parks (the most popular type of accommodation among Valley snowbirds). The researchers did not attempt to enumerate all winter residents – only those who lived in parks in the

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Retirement and Seasonal Migration

Arizona Approaches No. 2 as Destination

Arizona has experienced more growth in retirement migration than any other state in the nation, with the number of in-migrants tripling between 1960 and 1980. If this current trend continues, Arizona may overtake California as the second-ranked destination state, behind Florida, in the 1990 Census figures. More than 61,000 people 65 years and older moved to the state during the 1975-80 period.

Arizona's experience typifies the geographical redistribution of the U.S. retirement-age population - a major social phenomenon of the post-World-War-II era. The number of elderly migrants has increased dramatically, from 225,000 during 1935-40 to more than 1.6 million during 1975-80.

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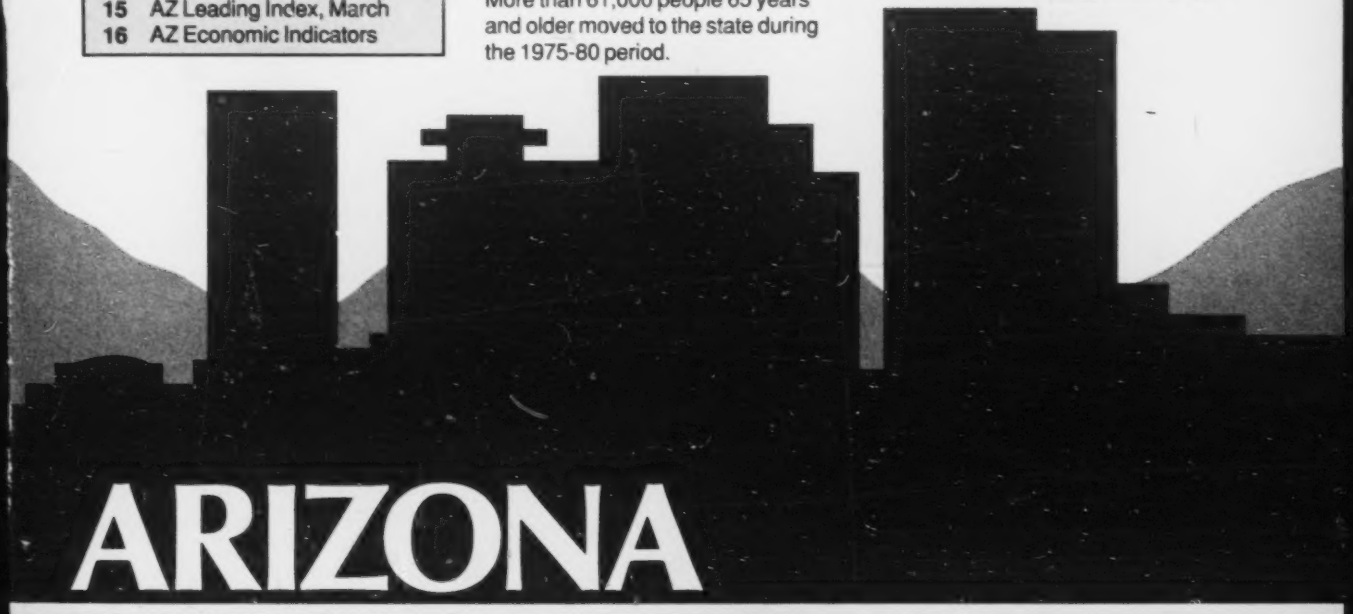

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Mesa/Apache Junction area, where the Valley's largest concentration of snowbirds resides. In 1985, the survey area was expanded to include all of the East Valley. With increased funding, the 1986 census encompassed the entire Phoenix metropolitan area.

Winter residents staying in motels, hotels, apartments, houses or condominiums, with friends/relatives, or camping on public lands were not contacted. Thus, the estimates produced by these censuses should be interpreted as a measure of a major segment of all winter residents, rather than as a count of the entire snowbird population.

In recognition of the growing economic importance of the Valley's winter residents, Western Savings completed a different type of snowbird survey in February as part of their *Forecast Eighty-Six* project. Their objective was to compile information on demographics, attitudes, and activities. Personal interviews conducted throughout the Phoenix area provided new information on the entire snowbird population, regardless of their type of accommodation. When these data were combined with the results of ASU's census of mobile home and travel trailer/RV parks, estimates could be made for the first time of the total winter resident population and the impact of their spending on the Valley's economy.

METHODOLOGY OF THE SURVEYS

1984 Survey

For the 1984 census, ASU researchers compiled a list of 236 mobile home and travel trailer/RV parks from a variety of sources, including park directories, Mountain West Research's annual *Phoenix Metropolitan Housing Study*, and city and county planning departments. During the first and second weeks of February 1984, the owners or managers of the parks on the list were surveyed by telephone to ascertain the number of spaces, occupancy levels, proportion of seasonal residents, and other characteristics of their parks. For non-responding parks, counts of the number of spaces were compiled from published sources, the Mountain West list, or site visits. Information from the responding parks was employed to estimate occupancy rates and the proportion of winter residents for the non-respondents.

1985 Survey

The second annual snowbird census was conducted during the first and second weeks of February 1985, using procedures similar to those of the 1984 census. The survey area was expanded to the entire East Valley, including parks in Chandler, Gilbert, Scottsdale, Tempe, and the non-incorporated areas of eastern Maricopa County.

1986 Survey

The 1986 census encompassed the entire Phoenix metropolitan area. Parks to be contacted in the city of Phoenix and the West Valley were identified from the *Phoenix Metropolitan Housing Study* list compiled by Mountain West Research, from various directories, and from canvassing the areas by car. Researchers also updated the park list for the East Valley from the same sources. The total number of parks was 719 – 299 parks in the East Valley, 284 parks in Phoenix, and 136 parks in the West Valley (Avondale, Buckeye, Glendale, Goodyear, Morristown, Peoria, Sun City, Surprise, Tolleson, Tonopah, and Youngtown). Expansion of the census area led to a procedural change in that the ASU Survey Research Center conducted the telephone survey. As a result, the survey was conducted during the last week of February and first week of March.

Forecast Eighty-Six

As part of its *Forecast Eighty-Six* project, Western Savings conducted personal interviews with 550 winter residents Valleywide during February. Researchers collected information on their type of lodging, contacting 171 people within their home park and interviewing a random sample of 379 people at the Phoenix Zoo and various other locations.[1]

SURVEY RESULTS

1984 Survey

An estimated 27,500 seasonal households or, assuming an average of two people per household, 55,000 winter residents were living in mobile home and travel trailer/RV parks in the Mesa/Apache Junction area during the 1984 survey period.[2]

TABLE 1
WINTER RESIDENTS IN MOBILE HOME AND TRAVEL TRAILER/RV PARKS
1986 Census, By Geographical Area

	East Valley	*City of Phoenix*	*West Valley*	*Total*
Number of Mobile Home Spaces	32,129	17,212	11,334	60,675
Occupancy Rate (percent)	92.7	92.0	84.9	91.0
Number of Travel Trailer and RV Spaces	32,374	2,521	3,912	38,807
Occupancy Rate (percent)	76.4	91.3	57.2	75.5
Number of Occupied Spaces	54,564	18,137	11,861	84,562
Percentage of Spaces Occupied by Winter Residents	56.1	18.9	26.6	44.0
Number of Winter Resident Households	30,610	3,428	3,155	37,193

Source: Census conducted by the authors and the ASU Survey Research Center, February/March 1986.

1985 Survey

The second annual census yielded an estimate of almost 34,000 winter resident households in the East Valley during the survey period. Again assuming an average household size of two people, approximately 68,000 winter residents lived there.[3] With the addition of new territory to the survey area in 1985, the figures cannot be directly compared to those from the 1984 census. However, more detailed analysis of the 1985 results revealed that substantial growth had occurred, with the expansion evidenced by growth in the number of spaces available in the travel trailer/RV parks. Given the large increases, many of the newly opened parks experienced low occupancy rates during the 1984-85 season. On balance, however, the number of winter residents staying in the East Valley probably increased 6 percent between February 1984 and February 1985.

TABLE 2
NUMBER OF PARK SPACES AND WINTER RESIDENT HOUSEHOLDS IN THE EAST VALLEY

	1985	*1986*	*Percent Change*
Number of Mobile Home Spaces	30,448	32,129	+5.5
Number of Travel Trailer/RV Spaces	29,629	32,374	+9.3
Number of Occupied Spaces	50,361	54,564	+8.3*
Number of Winter Resident Households	33,951	30,610	-9.8*

*Comparison biased by three-week difference in timing of the survey.

Source: Censuses conducted by the authors and the ASU Survey Research Center.

TABLE 3
WINTER RESIDENT HOUSEHOLDS: NUMBER AND PERCENTAGE OF EACH TYPE
Metropolitan Phoenix, February/March 1986

	Number	*Percent*
Mobile Home/Travel Trailer/RV Park	44,800	47%
Apartment	21,923	23
Single Family Home/Condominium	14,298	15
Hotel/Motel	7,626	8
Friend/Relative	6,672	7
TOTAL	95,319	100%

Sources: Forecast Eighty-Six, "Snowbird Survey," by Western Savings and Datapol, February 1986; and calculations by the authors.

1986 Survey

The 719 parks in the Phoenix metropolitan area at the time of the 1986 census encompassed 60,700 mobile home spaces and 38,800 travel trailer/RV spaces – a total of nearly 100,000 spaces. The proportion of occupied spaces was considerably higher in mobile home parks (91 percent) than in travel trailer/RV parks (76 percent). Based on census responses, an estimated 44 percent of the occupied spaces Valleywide were home to seasonal residents. With more than 84,000 occupied spaces, this proportion implies more than 37,000 winter resident households in Valley mobile home, travel trailer, and RV parks.

Table 1 summarizes the results of the 1986 census. The data presented by geographical area clearly show that the Valley's winter resident population is heavily concentrated in the East Valley. Not only are 83 percent of travel trailer/RV spaces and 65 percent of all mobile home and travel trailer/RV spaces located there, but the proportion of spaces occupied by winter residents is much higher for East Valley parks – 56 percent relative to 19 percent for Phoenix and 27 percent for the West Valley. Consequently, 82 percent of winter resident households staying in Valley parks were in the East Valley.

Table 2 presents comparisons between the 1985 and 1986 censuses for the East Valley. The number of mobile home spaces, for example, rose moderately (5.5 percent), while a more sizable increase occurred in the number of travel trailer/RV spaces (9.3 percent). Any change in the number of occupied spaces and in the number of winter resident households is difficult to validate due to survey bias that results from the three-week difference in timing of the 1985 and 1986 surveys. However, adjustments for this timing difference have been calculated and are discussed in the next section. The adjusted figures indicate that roughly 5 percent more winter residents probably were living in East Valley mobile home, travel trailer and RV spaces in 1986 than in 1985.

In addition to the data compiled in previous years, the 1986 census also collected information on a variety of park characteristics. These data indicate that monthly rental of spaces to winter residents is the most prevalent rental/lease arrangement (68 percent), while seasonal residents who purchase their own space represent a very small segment of the market (5 percent). The survey findings also show that the majority of parks provide a wide variety of amenities. Most spaces have individual hookups for electricity and phone service. More than 50 percent of the parks feature recreational facilities such as swimming pools, dance areas, ping pong or pool tables, shuffleboard, and arts and crafts rooms. Another one-third of the parks also have special security arrangements.

Forecast Eighty-Six

Data relating to the snowbirds' month of departure indicate that the majority return home during March or April, but 14 percent depart during February. Since part of ASU's 1986 census also was conducted during March, it is possible to use the Western Savings data to adjust the census figures and estimate the peak population of winter residents in Valley parks. After accounting for the proportion departing during February and part of March, an estimated 44,800 seasonal households or, assuming an average of two people per household, almost 90,000 winter residents were staying in mobile home and travel trailer/RV parks during the peak of the 1985-86 winter season.

Based on the living arrangements of the survey's randomly sampled component, the 44,800 seasonal household figure can be used to derive estimates of the total number of winter resident households as well as breakdowns by stated type of lodging. If 47 percent of winter resident households stay in the parks, as *Forecast Eighty-Six* data suggest, then more than 95,000 such households – some 190,000 snowbirds – lived in the Phoenix area during February/March 1986 (see Table 3).

ECONOMIC CONTRIBUTION

An important issue surrounding the Valley's winter residents is the amount of money they inject into local economies. In the past, estimates for winter residents of East Valley parks assumed average monthly expenditures of $1,000 per household and an average length of stay of four months. *Forecast Eighty-Six* findings reveal that the $1,000 figure is conservative. Nearly 47 percent of the respondents indicated average monthly expenditures greater than $1,000, with 12 percent indicating expenditures greater than $2,000. Length of stay varied Valley-wide, with an average of approximately three months in the West Valley and the City of Phoenix and approximately four to five months in the East Valley.

Using the 44,800-household estimate of park residents and assuming an average length of stay of four months, with average monthly household expenditures of $1,000, these snowbirds injected approximately $179,000,000 into local economies. As for the Valley's entire winter resident population, the same assumptions and the 190,000 population estimate from Table 3 lead to a total expenditure estimate of approximately $381,000,000.

SUMMARY AND OUTLOOK

Estimates of the number of winter residents staying in the Phoenix metropolitan area demonstrate the importance to the local economy of the annual influx of snowbirds – an addition of 190,000 people for one or more months to the Valley's population and an injection of close to $400 million to the local economy. This seasonal increase in the area's population, plus the greater volume of winter tourism, explain why many of the Valley's streets, hospitals, golf courses, restaurants, and other public and private facilities become crowded.

The number of U.S. residents 55 and older is projected to increase 12 percent between 1980 and 1990 and another 11 percent by the year 2000. This growth in the nation's retired and semi-retired population is expected to spawn further growth in the number of people who migrate each winter to the Phoenix metropolitan area.

– **Jacqueline Fifield**
Research Analyst
– **Stephen K. Happel**
– **Timothy D. Hogan**

Drs. Happel and Hogan are faculty members in the Department of Economics of the ASU College of Business. Dr. Hogan is also Director of the State Data Center/ASU.

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A detailed analysis of the 1986 census results, in which all of the questions are broken down by subdistricts within the East Valley, the City of Phoenix, and the West Valley, is also available. Anyone interested in purchasing this report should contact Dr. Happel at 965-3531.

[1]The overall error rate, at the 95% confidence level, is 4.2% in either direction.

[2]Stephen K. Happel, Timothy D. Hogan, Deborah Sullivan, Heidi Rowe, and Laura Smith, "Mobile Home and Travel Trailer Parks in the East Valley: A Census," *Arizona Business* (Second Quarter 1984): 13-18.

[3]Jacqueline Fifield, Stephen K. Happel, Timothy D. Hogan, and Deborah Sullivan, "East Valley Winter Migration Up 6 Percent in 1985," *Arizona Business* (May 1985): 1-4.

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SEASONAL MIGRATION

For reasons similar to those of the many elderly who move permanently to Sunbelt states, many retired and semiretired people also migrate to this warmer clime each winter on a short-term basis. Again, Arizona is a major destination. The magnitude and pattern of this seasonal migration are not as easy to ascertain as information about permanent migration, which is collected as part of the decennial censuses. Studies of seasonal migration to Arizona generally have relied on data collected for some other purpose. For example, a 1979 household survey provided data for an estimate of at least 73,000 seasonal residents in the Phoenix area during the winter of 1979-80 (see the first quarter 1983 *Arizona Business*).

In 1980, for the first time, the U.S. Census Bureau compiled information relating to seasonal migration. Nationally, the census identified more than one-half million people as non-permanent residents of the localities in which they were living on the census day. These data understate the volume of seasonal migration occurring each winter, since they reflect residence as of April 1 - well past the prime period of winter migration. Further, people staying with relatives, in trailer/RV parks, campgrounds, motels/hotels or other accommodations were not counted. On the other hand, these counts included not only seasonal residents but also people, such as construction or farm workers, who were temporarily residing away from their usual residence. However, because the data indicate a median age for non-permanent Arizona residents of "65-plus," it is reasonable to consider these Census counts as a measure of seasonal migration to the state.

The 1980 Census figures reveal that Arizona, with more than 39,000

non-permanent residents, ranked third behind Florida and California in terms of absolute numbers. When these counts are compared with the states' total resident populations, the greatest concentrations of seasonal residents were found in Florida, with 26 non-permanent residents per 1,000 permanent residents, and in Arizona, with a ratio of 14 per 1,000.

GEOGRAPHICAL MIGRATION PATTERNS

In terms of absolute numbers during the 1975-80 period, the greatest number of elderly moved to Arizona from California. Other major sending states included Illinois, Michigan and Ohio in the Midwest and New York in the East. Migration data often are converted to migration rates to adjust for differences in population size of the areas under study. Retirement migration rates for each sending state have been calculated by computing the ratio of the absolute number of elderly in-migrants in 1980 per 1,000 residents 65 years and older. After adjusting for differences in the sizes of elderly populations, a substantially different geographic pattern emerges for retirement migration to Arizona: While the Midwest is still a major source of elderly in-migrants, the incidence of retirement migration from states in the Northwest and northern Mountain regions is shown to be much higher than from the states that sent greater absolute numbers of in-migrants to Arizona. Aside from Alaska, with the highest rate of 10.6 elderly migrants to Arizona per 1,000 people 65 years and older, adjacent Mountain states, such as Colorado, New Mexico, and Nevada, have the highest retirement migration rates (see Table 1).

Interpreting the Census Bureau's counts of non-permanent residents as seasonal migration figures, the largest migration flows to Arizona each winter come from the northern tier of states in the West and Midwest regions of the country. Seasonal migration rates (the ratio of non-permanent residents from each state per 1,000 residents 65 years and older in 1980) show that the incidence of seasonal migration to Arizona from Alaska and several smaller Mountain and Midwestern states, such as Idaho, Montana, North and South Dakota, and Wyoming, is much higher than that of larger states that send greater absolute numbers of winter migrants.

While both the retirement and seasonal migration figures portray a generally similar geographic pattern, a close look reveals systematic differences. For many of the northern states, the annual seasonal migration flows are larger than the volume of retirement migration to Arizona. For some Western states, on the other hand, there has been substantial retirement migration to Arizona but less seasonal migration. Similarly, while many Eastern states are the source of little seasonal migration to Arizona, retirement migration rates show a much higher incidence of elderly migration from those states to Arizona. Compare the two rates for Maryland (1.1 permanent retirement migrants versus 0.2 seasonal migrants per 1,000 elderly residents) or Massachusetts (1.1 versus 0.3), for example. Seasonal migrants from the East overwhelmingly choose to winter in Florida (the seasonal migration rate to Florida from Maryland is 9.0 and from Massachusetts is 13.1 migrants per 1,000 elderly residents), but residents of Eastern states seriously consider the more distant Arizona when contemplating a permanent retirement move.

TABLE 1
RETIREMENT AND SEASONAL MIGRATION TO ARIZONA
By State of Origin (Selected States), 1980

	Number of Migrants Aged 65 or Older	*Non-permanent Residents*	*Retirement Migration Rate*[1]	*Seasonal Migration Rate*[1]
Alaska	122	156	10.6	14.3
California	10,835	1,697	4.5	0.9
Colorado	2,085	1,803	8.4	7.9
Connecticut	640	187	1.8	0.6
Florida	1,541	201	0.9	0.1
Idaho	456	801	4.9	9.2
Illinois	7,664	2,515	6.1	2.2
Indiana	1,534	900	2.6	1.6
Iowa	1,766	2,336	4.6	6.5
Kansas	829	687	2.7	2.4
Maryland	437	82	1.1	0.2
Massachusetts	789	197	1.1	0.3
Michigan	4,007	3,550	4.4	4.2
Minnesota	2,304	4,188	4.8	9.3
Missouri	1,540	702	2.4	1.2
Montana	680	948	8.0	12.2
Nebraska	616	816	3.0	4.3
Nevada	476	201	7.2	3.3
New Jersey	1,234	277	1.4	0.4
New Mexico	945	277	8.1	2.3
New York	3,952	1,356	1.8	0.7
North Dakota	514	1,460	6.4	19.4
Ohio	3,428	1,333	2.9	1.2
Oklahoma	511	175	1.4	0.5
Oregon	1,407	1,196	4.6	4.4
Pennsylvania	1,763	758	1.2	0.5
South Dakota	448	934	4.9	11.1
Texas	1,318	414	1.0	0.3
Utah	564	439	5.2	4.2
Washington	1,893	2,017	4.4	5.2
Wisconsin	2,363	5,811	4.2	3.4
Wyoming	163	62	4.4	19.6
U.S. Total	61,376	39,170[2]	2.4	1.5

[1]Migrants per 1,000 people 65 years or older.
[2]Includes migrants from abroad and those for whom the residence was not reported.

Sources: U.S. Bureau of the Census, *Census of Population, 1980: County to County Migration Flows* (machine-readable data file), 1984; and "Nonpermanent Residents by States and Selected Counties and Incorporated Places: 1980," *Census of Population, 1980*, Supplementary Report PC80-51-6, April 1982.

– Timothy D. Hogan

Dr. Hogan is Professor of Economics and Director of the State Data Center/ASU.

GSP Growth Slows to 6.8 Percent Rate in 1985

The Arizona Gross State Product (GSP) grew at an inflation-adjusted 6.8 percent rate during 1985. Far short of the record 11.5 percent gain of 1984, the 1985 pace still surpassed the long-term annual average rate of 5.7 percent. The adjusted GSP, which excludes the volatile mining and agricultural industries, grew 7.9 percent during 1985.

REVISIONS TO GSP

These figures reflect several revisions just incorporated into the GSP in order to keep it comparable to the Gross National Product (GNP):

- The GNP and related national product accounts were enhanced and recalculated at the end of 1985 by the U.S. Department of Commerce. As a result, the value of both the GNP and GSP, in current (non-inflation-adjusted) dollars, was raised.
- The calculation of certain deflators – particularly those related to industries with improved technology – was updated, contributing to different real (inflation-adjusted) values for both the GNP and GSP.
- 1982 became the base period for inflation adjustment.
- Separately from the above changes, personal income figures for the last four years were revised.

The net effect of these changes is illustrated in the real dollar percent changes shown in Table 1. While some of the revisions were substantial, they were not so great as to change the basic understanding of the Arizona economy.

In specific industries and/or time periods, however, the revisions were more significant and will be noted later in this article. Because of these revisions, a detailed review of GSP is offered, including historical perspectives and comparisons to the national economy.

GSP GROWTH SINCE 1983

Between the end of the last recession in late 1982 and the end of 1985, the Arizona economy expanded nearly 31 percent. Despite record annual average growth in 1984, the total expansion of this 13-quarter period fell short of that for the first 13 quarters of the expansions of both the early and late 1970s. This relative sluggishness was a result of the slowdown in economic growth that began in mid-1984 and extended through 1985.

Deceleration is most easily seen in the adjusted GSP percent changes presented in Table 2. (Exclusion of the mining and agricultural industries results in a smoother pattern of economic growth that more closely coincides with the economic cycle.) Despite this moderation, the Arizona economy continued to grow at, or more rapidly than, its long-term average until fourth quarter 1985.

The slowing of the Arizona economy corresponded to a deceleration in the national economy, except that the braking of the national economy was more severe. As a result, 1985 growth in the GSP outpaced the 2.2 percent gain in GNP by a 3-to-1 margin instead of the 2-to-1 ratio typical during economic expansions (see Table 3).

The construction industry and the finance, insurance and real estate sector led the 1985 GSP advance. Each recorded double-digit gains for the third consecutive year. The trade industry was the only other sector to expand more rapidly than the 6.8 percent overall rate.

Both the agriculture and mining GSPs declined in 1985, the former for the third consecutive year and the latter for the third time in the last four years. Further, quarterly changes in each industry exhibited wild swings during these years, resulting in the erratic pattern of total GSP growth presented in Table 2.

Other slow-growing industries during 1985 included manufacturing, which expanded a subpar 5 percent, and government, which has experienced slower growth than registered by the entire economy in all but one year since 1975.

CURRENT DOLLAR GSP

The non-inflation-adjusted Arizona GSP exceeded $47.4 billion by the end of 1985, representing 1.1 percent of GNP. The trade industry continued to be Arizona's largest sector, with its $8.3 billion GSP accounting for 17.5 percent of the total. At nearly $8 billion each, the services industry and the finance, insurance and real estate sector closely followed (see Figure I). In 1984, the manufacturing industry

TABLE 1
EFFECT OF REVISION TO
ARIZONA GROSS STATE PRODUCT
Annualized Percent Change in Real GSP

	*Original**	*Revised*
Annual		
1980	3.9%	3.1%
1981	8.0	5.5
1982	-2.7	-2.7
1983	7.7	7.2
1984	14.0	11.5
1985	NA	6.8
Quarterly		
First 1983	14.7	8.3
Second 1983	20.1	18.3
Third 1983	14.9	10.0
Fourth 1983	8.8	14.3
First 1984	21.8	13.7
Second 1984	5.6	5.3
Third 1984	16.1	10.2
Fourth 1984	1.8	5.0
First 1985	10.7	11.4
Second 1985	-1.2	2.5
Third 1985	6.1	6.9
Fourth 1985	NA	-0.2

NA: Not Available
*As of February 1986

Source: Center for Business Research, College of Business, Arizona State University; in cosponsorship with the ASU College of Business Dean's Council of 100.

had claimed the greatest share of GSP, but slow growth during 1985 caused it to tumble to fourth place. The sectoral shares of agriculture and mining, the two smallest industries, again shrunk in 1985.

Arizona's industrial structure closely corresponds to the national structure, except that the manufacturing industry's share remains smaller in Arizona, offset by a larger construction industry share (see Figure II). Except in paralleling changes in the national structure, Arizona's industrial structure has varied little since the 1960s. Thus, the state has a mature economy in which the similarities to the national economy outnumber the differences. Most of the disparities occur within the nine major industries; for example, copper represents most of Arizona's mining industry, while oil dominates the national mining scene.

The revision to current dollar GSP did not affect the industries equally. In particular, it diminished the share of the finance, insurance and real estate industry but increased the shares of the services and construction industries.

DEFLATORS

Current dollar GSP, like current dollar GNP, uses special sets of price deflators to calculate real dollar values. As seen in Figure III, the Arizona GSP deflator has measured less inflation in recent years than either the Metropolitan Phoenix Consumer Price Index or the GNP implicit price deflator. During the 1970s, however, the Arizona deflator and the GNP deflator averaged identical annual inflation rates of 7.4 pecent. Declining copper prices have contributed to Arizona's lower inflation rate in recent years.

Variation in inflation rates among the Arizona sectors may be substantial in any year. Likewise, the difference in the inflation rate of the same sector nationally and in Arizona may be large. Over a period of several years, however, such variations generally even out. For example, the annual average inflation rate between 1971 and 1985 was between 6 and 8 percent in six of the nine sectors; the overall average was 6.1 percent. Exceptions included inflation in mining, in which a paltry 1 percent gain reflected falling copper prices; agriculture; and finance, insurance and real estate. The latter two industries averaged just less than 5 percent inflation.

INFLATION-ADJUSTED GSP

Real-dollar GSP is used to measure growth rates and trace economic cycles. The revision caused

TABLE 2
ECONOMIC GROWTH

	Arizona Gross State Product[r]				Gross National Product
Quarter	*Billions of Current Dollars, Annualized*	*Billions of 1982 Dollars, Annualized*	*Annualized Percent Change (1982 Dollars)*	*Annualized Percent Change (Adjusted GSP)**	*Annualized Percent Change (1982 Dollars)*
First 1983	$35.197	$34.384	8.3%	8.9%	4.0%
Second 1983	36.937	35.955	18.3	21.8	8.9
Third 1983	38.001	36.858	10.0	12.3	5.5
Fourth 1983	39.460	38.173	14.3	10.6	6.7
First 1984	41.421	39.485	13.7	11.4	11.4
Second 1984	42.207	40.005	5.3	11.8	5.1
Third 1984	43.295	41.025	10.2	9.1	2.1
Fourth 1984	43.958	41.541	5.0	6.7	0.6
First 1985	45.665	42.722	11.4	9.6	3.7
Second 1985	46.194	42.987	2.5	5.3	1.1
Third 1985	47.126	43.725	6.9	8.0	3.0
Fourth 1985	47.443	43.707	-0.2	2.4	0.7

*The adjusted GSP is the annualized GSP in billions of 1982 dollars, minus the contributions of the agriculture and mining industries.

[r] Revised

TABLE 3
ANNUAL ECONOMIC GROWTH

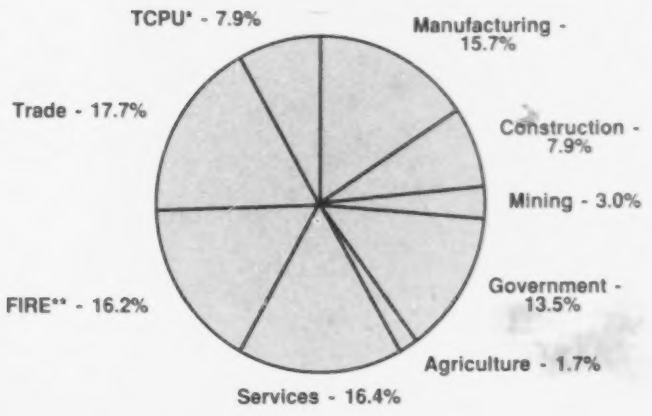
	Arizona Gross State Product[r]				Gross National Product
Year	*Billions of Current Dollars*	*Billions of 1982 Dollars*	*Percent Change (1982 Dollars)*	*Percent Change (Adjusted GSP)**	*Percent Change (1982 Dollars)*
1980	29.803	33.041	3.1%	2.1%	-0.2%
1981	33.585	34.857	5.5	2.4	1.9
1982	33.698	33.915	-2.7	-0.6	-2.5
1983	37.399	36.343	7.2	9.1	3.5
1984	42.720	40.514	11.5	11.9	6.5
1985	46.607	43.285	6.8	7.9	2.2

*The adjusted GSP is the GSP in billions of 1982 dollars, minus the contributions of the agriculture and mining industries.

[r]Revised

Source (Tables 2 and 3): Center for Business Research, College of Business, Arizona State University; in cosponsorship with the ASU College of Business Dean's Council of 100.

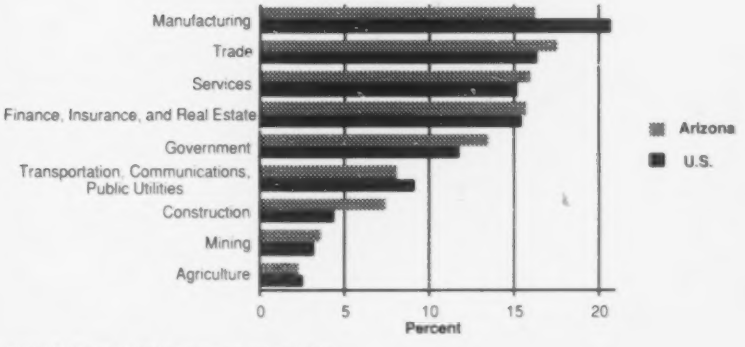
FIGURE I
ARIZONA GROSS STATE PRODUCT
1985 Sectoral Shares, in Current Dollars



*TCPU = Transportation, Communications, and Public Utilities
**FIRE = Finance, Insurance, and Real Estate

Source: Center for Business Research, College of Business, Arizona State University.

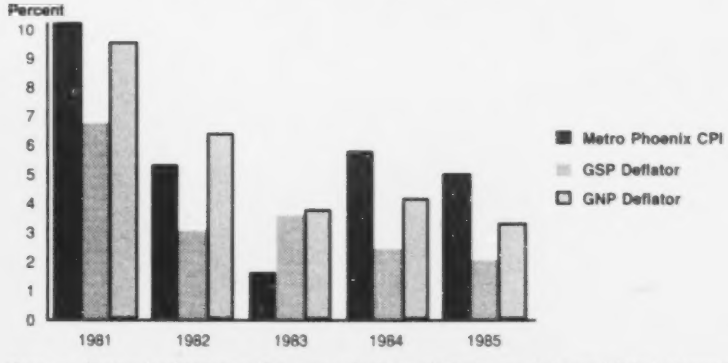
FIGURE II
ARIZONA GSP AND U.S. GNP
1984 Sectoral Shares, in Current Dollars*



*1985 GNP data by industry are not yet available.

Source: Center for Business Research, College of Business, Arizona State University and U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE III
COMPARISON OF INFLATION MEASURES



Source: Center for Business Research, College of Business, Arizona State University and U.S. Department of Commerce, Bureau of Economic Analysis.

moderately large changes in the measurement of real growth in certain years - particularly in 1981 and 1984, when upward revisions to the inflation rate lowered real growth. The 11.5 percent gain in 1984 remained the record, however, edging out the 11.2 percent advance of 1978.

The revision had the overall effect of slightly lowering the long-term average annual growth rate of the Arizona economy to 5.7 percent. This average pertains both to the entire 1961-85 period for which GSP data are available and to the more recent 1970-85 period. During the 1980s, however, the average rate of growth has been only 4.8 percent, despite the 1984 record gain. The two recessions between 1980 and 1982 lowered this average.

GSP by Sector

The annual average growth rate has varied widely by industry (see Figure IV). The finance, insurance and real estate sector's pace has clearly exceeded that of the other industries; growth of government and agriculture has lagged.

Inclusion of data for the 1960s in the long-term average, however, changes the rankings. Manufacturing nearly matched the 7.0 percent gain of the finance, insurance and real estate sector, while mining's growth of less than 4 percent was nearly as slow as that of agriculture and government.

The GSP of all Arizona industries has grown more rapidly than the gross product of their national counterparts. The annual average rate between 1970 and 1984 (national data by industry for 1985 are not yet available) was roughly twice as fast in Arizona than nationally in most industries. The smallest differential occurred in the trade and services industries, while the greatest divergence occurred in the mining and construction sectors. The real GNP of the latter industries declined between 1970 and 1984.

On a real-dollar basis, the revision to the Arizona data reduced the growth rate of the manufacturing; finance, insurance and real estate; and transportation, communications and public utilities industries. Annual average growth in the construction industry was revised up by a modest amount.

Economic Cycles

In each of the four expansionary periods since 1970 (including the current cycle), Arizona GSP grew at least twice as rapidly as GNP. Except for the brief 1980-81 recovery, the same relationship is true of adjusted GSP.

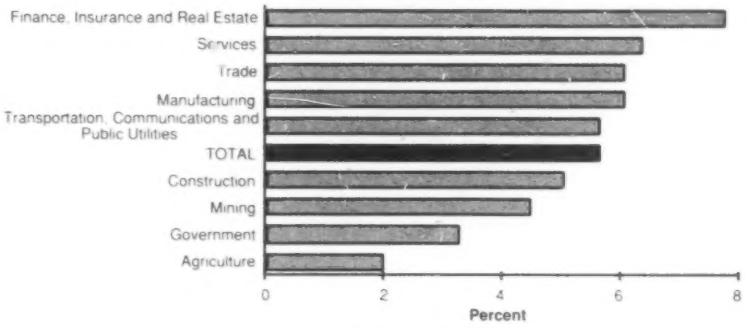
The Arizona economy exhibited more volatility, however, because the downturn in GSP during each of the three recessions exceeded the decline in GNP. After adjusting the GSP, however, only the severe 1974-75 recession remained more serious in Arizona than nationally (see Figure V). The GSP data clearly indicate that the Arizona economy does suffer through recessions, which may be more severe than the national downturns.

Total growth of the Arizona economy during the current cycle (through the end of 1985) has reached nearly 31 percent, less than gains during the expansions of the early and late 1970s - 34 percent and 45 percent, respectively. Thus, despite the length of the current expansion, further growth can be expected.

The Arizona economy has outperformed the national economy by a greater margin during the 1980s than during the 1970s. In the current expansion, GSP has grown 2.2 times as fast as GNP; adjusted GSP growth has been 2.6 times as rapid - a greater ratio than in the prior three expansions.

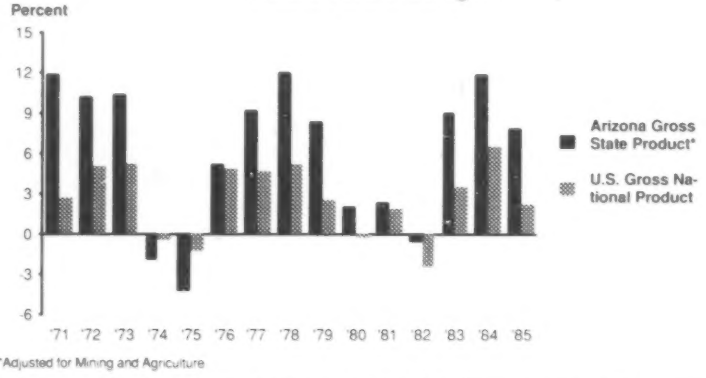
The duration of each economic cycle in Arizona has been nearly equivalent to the length nationally, with peaks and troughs generally occurring no more than one or two months apart. The GSP data provide no evidence that Arizona experiences shorter, milder recessions. Rather, the Arizona growth rate rapidly decelerates from a pace at least twice that of the nation to a decline nearly equal in magnitude to that of the national economy. The offsetting recovery is also much sharper in Arizona.

FIGURE IV
ANNUAL AVERAGE GSP GROWTH
By Sector, 1970-85



Source: Center for Business Research, College of Business, Arizona State University.

FIGURE V
ARIZONA GSP* AND U.S. GNP
Annual Percent Change



*Adjusted for Mining and Agriculture

Source: Center for Business Research, College of Business, Arizona State University.

EMPLOYMENT AND PRODUCTIVITY

Rates of change in employment usually relate to rates of change in gross product. In Arizona, employment growth during 1984 was strong (9.6 percent), but less than in three years during the 1970s; 1984 GSP growth set a record. Thus, the output per employee rose 2.1 percent during 1984; productivity in 1983 had improved nearly 3 percent.

Employment growth slowed during 1985 (to 8.2 percent) but not as much as the deceleration in GSP. Output per employee thus fell nearly 1 percent in 1985. This pattern of up-and-down productivity has persisted since 1970; real output per employee was nearly identical in 1970 to 1985. The fluctuations relate to the economic cycle - output per employee inevitably declines during recessions and rises early in a recovery. This pattern results from employment levels changing more slowly than economic conditions.

Output per employee did rise in some sectors between 1970 and 1985, most notably in mining, where it more than tripled. Gains also were recorded in the manufacturing industry and in the finance, insurance and real estate sector. In contrast, productivity declined substantially in the construction and services industries.

OUTLOOK

The annual average change in Arizona GSP during 1986 probably will be slightly less than the 6.8 percent rate measured during 1985. While the quarterly pace during 1986 almost certainly will return to the levels of late 1984 and early 1985 and perhaps accelerate further in late 1986, the subpar fourth quarter 1985 figure lowered the year-over-year change to just 5 percent at the beginning of 1986. In contrast, the year-over-year rate at the beginning of 1985 was 9 percent. Thus, more rapid quarterly growth during 1986 still could result in a lower annual average increase.

– **Tom R. Rex**
Research Manager

Council of 100 Expects Brighter Economy in '87

Economic growth in1987 should surpass that of 1986, according to a survey of the College of Business Dean's Council of 100. Council members are CEOs and executives at the senior level, primarily from firms in the metropolitan Phoenix area. They are polled at the beginning of the year and at midyear by the Center for Business Research.

Council members were asked to compare expected real economic growth nationally in 1987 with 1986, growth in 1986 with 1985, and during the next six months with the previous six months (Table 1). Responses were weighted, then averaged, so that scores of 50 for any entry indicate no change is anticipated, scores of more than 50 reflect expectations for improvement, and scores of less than 50 indicate worsening business conditions are expected.

The executives are more optimistic about the year ahead (score of 63) than they were one year earlier when asked to look forward to 1986 (score of 47). They also feel very strongly that 1986 will be significantly better than 1985 (score of 80). Actual figures for real GNP show growth of 3.8 percent for the first quarter 1986 and 1.1 percent for the second quarter, compared to 2.7 percent for all of 1985. The group anticipates marked improvement during the second half of 1986 over the first half (score of 75).

Survey respondents expect no sharp changes in key economic indicators. Four out of five predict a stable or lower prime rate during the next six months (Table 2). Within a year, however, more than one-half (54 percent) foresee a rise in the prime. Council members' forecast of six months ago was quite accurate, as 90 percent projected no significant increase in the prime between January and June 1986.

Seven out of ten executives also expect unemployment and inflation rates to remain stable for the remainder of 1986. Slightly more than one-half (52 percent) think the Dow Jones Industrial Average will continue to rise during the next six months, but 53 percent believe the market will be the same or lower 12 months from now.

The survey also revealed the sentiments of Council members regarding the Arizona business climate as well as their long-term outlook for economic development (Table 3). While 37 percent strongly agree that Arizona has one of the strongest business climates in the nation, respondents were less willing to offer high marks for the state's current business image. Only 22 percent strongly agree that Arizona has a strong business image nationally.

Responses were mixed on whether in 10 years Arizona will be a better place to live and work, with the largest proportion (36 percent) falling in the middle or "not sure" region. However, only 8 percent strongly disagree with this statement, while twice as many strongly agree.

In spite of recent progress in funding streets and freeways, only 2 percent of executives strongly agree that traffic congestion is not a threat to Arizona's economic growth, while 68 percent strongly disagree. Similarly, 4 percent strongly agree that air pollution is not a threat, while 52 percent strongly disagree.

– Lee R. McPheters

Dr. McPheters is Professor of Economics and Center Director.

TABLE 1
ASU COUNCIL OF 100
ECONOMIC OUTLOOK SCORES*

	Date of Survey		
Outlook Period	*(6/86)*	*(12/85)*	*(6/85)*
1987 compared to 1986	63	NA	NA
1986 compared to 1985	80	62	47
Next six months	75	63	53

*Council members had three reply options to each question: Higher, Same, or Lower. The score for each question was calculated by averaging the weighted replies. The weights: Higher - 100; Same - 50; Lower - 0. Scores may range from 0 to 100, with higher scores reflecting a greater degree of optimism. Scores near 50 indicate no change, scores above 50 indicate expected improvement, and scores below 50 indicate expected worsening of business conditions.

TABLE 2
ASU COUNCIL OF 100
PROJECTIONS FOR ECONOMIC VARIABLES

	Percent of Council Members Indicating Each Response					
	In Six Months			In Twelve Months		
Variable	*Higher*	*Same*	*Lower*	*Higher*	*Same*	*Lower*
Prime Rate	20%	48%	32%	54%	22%	24%
Unemployment	16	70	14	33	48	19
Inflation Rate	23	71	6	63	31	6
Dow Jones IA	52	19	29	37	15	48

TABLE 3
ASU COUNCIL OF 100
SENTIMENT ON ECONOMIC DEVELOPMENT ISSUES

Issue	Strongly Agree				Strongly Disagree
	1	*2*	*3*	*4*	*5*
Arizona has a strong business image nationally	22%	46%	12%	20%	0%
The Arizona business climate – considering taxes, labor supply, costs, quality of life – is among the best in the country	37	49	12	2	0
In 10 years, Arizona will be a better place to live and work than it is now	16	24	36	16	8
Air pollution is not a threat to Arizona's future economic development	4	6	2	36	52
Traffic congestion is not a threat to Arizona's future economic development	2	4	4	22	68

Source (Tables 1, 2, and 3): Center for Business Research, College of Business, Arizona State University.

U.S. Economic Cycles Moderate Since WWII

Cyclical upturns and downturns in U.S. economic activity, though ever-present and similar in duration, have moderated in intensity during the post-World-War-II period. The economy appears to be depression-resistant but not recession-proof. Each period of cyclical fluctuation has posed unique problems for market participants, although the cycles themselves, especially the current expansion, have exhibited generic characteristics.

Figure I examines the historical record for changes in real GNP from 1929 to the present. The points in the figure represent the percent changes in real GNP from one peak value to the next trough value or from one trough to the next peak. Positive percent changes denote periods of expansion, while those that are negative represent contractions. The numbers along the line segments show the duration, in months, of the upturn or downturn.

Similarity or dissimilarity in business cycles can be measured in two dimensions: magnitude and duration. For example, at 43 months, the current upturn closely resembles the two expansions of the 1970s. The upturns that began in November 1970 and March 1975 lasted 36 and 58 months, respectively. In addition, the levels of real GNP in the early and mid-1970s rose 14.5 and 22.4 percent, respectively, from trough lows. At 14.9 percent more than the lowpoint of November 1982, the current expansion should easily continue for another 12 months.

Figure I also vividly displays the major differences between wartime and peacetime expansions. Typically, the stimulus of tooling up for wartime production results in abnormally high economic growth that lasts until the end of hostilities. World War II, for example, ushered in a sustained recovery from the worldwide depression of the 1930s.

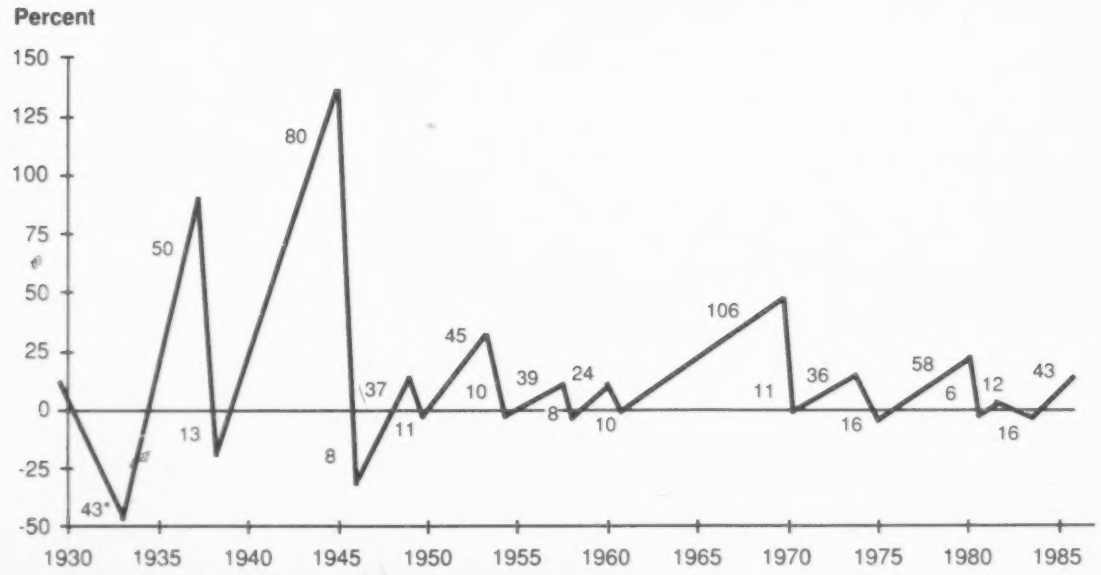
In terms of magnitude, the March 1933 to May 1937 expansion deviated from other peacetime growth periods. From trough to peak, real GNP almost doubled, rising 83 percent. In large part, this recovery resulted from "New Deal" legislation that stimulated the economy through government spending. However, real GNP failed to attain the level of eight years earlier, even after a strong, 50-month expansion.

On the downside of the cycle, the eight U.S. recessions from November 1948 to present have averaged 11 months in duration. The two recessions beginning November 1973 and July 1981, at 16 months each, were the longest of the post-Korean-War period. The recession beginning August 1957 was the shortest, lasting only eight months.

Though recessions since the Korean War have caused dislocations and hardships, they appear slight in magnitude compared to the severity of the Great Depression or the downturn just after World War II. During the 43 months of the Great Depression, the nation's real output of goods and services was almost halved, dropping 45 percent. This output, in turn, reflected an economy in which one in four workers was unemployed.

— **Jim Huyghebaert**
Senior Economist
Economic Outlook Center

FIGURE I
PERCENT CHANGE IN REAL GNP



* Numbers indicate the duration of the expansion or recession, in months.

Source: Economic Outlook Center, College of Business, Arizona State University.

Home Sales Remain Strong in First Quarter

Some 19 percent more homes were sold in the Phoenix metropolitan area during first quarter 1986 than during first quarter 1985 (see Table 1). While the 12,953 sales fell 16 percent short of the fourth quarter total, a decline of this magnitude typically occurs during the winter.

The most recent decline in mortgage interest rates, in late February and early March, had little effect on first quarter sales. At least several weeks elapse between a decline in rates and an increase in recordings of home sales because of the time required for a buyer to select a home and finalize the transaction. For a new home, months may pass while the home is under construction before the sale is recorded.

In comparison to sales in both the prior quarter and first quarter 1985, activity by type of home during first quarter 1986 was erratic. The sharp decline in new home sales and the large advance in resale townhouse and condominium sales probably do not represent enduring trends. These inconsistencies partially result from the relatively small volume of sales at the start of any year.

MEDIAN HOME PRICE AND APPRECIATION RATE

The median price of all homes sold in the Phoenix area during the first quarter, $75,000, was slightly less than the median of fourth quarter 1985. Such a price drop usually occurs during the winter. However, the increase in the median sales price of nearly 5 percent for the year ending first quarter 1986 exceeded the gain of approximately 3 percent that was experienced during much of 1985.

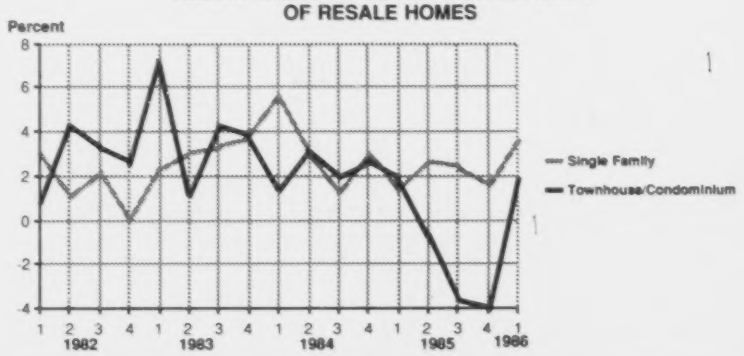
On a per-square-foot basis, the one-year jump in the median price of resale single family properties was the greatest in two years (see Figure I). After three quarters of declining prices, inflation again pushed up the median square-foot price of townhouses and condominiums. The first quarter appreciation rate for single family homes, 0.7 percent, remained in the 0.7 to 0.8 percent range for the 12th consecutive quarter. The value of homes gained just 3 percent during the year ending first quarter 1986.

OUTLOOK

Because of the decline in mortgage interest rates during the first quarter and optimism concerning further drops during 1986, both the number of home sales and the increase in price during 1986 could be greater than in 1985. With the general inflation rate in the Phoenix metropolitan area decelerating rapidly, it probably will be less than the home price gain. The impact of falling mortgage rates on home sales should begin during the second quarter.

— **Tom R. Rex**
Research Manager

FIGURE I
ANNUAL PERCENT CHANGE IN THE MEDIAN SALES PRICE PER SQUARE FOOT OF RESALE HOMES



Source: Center for Business Research, College of Business, Arizona State University.

TABLE 1
METROPOLITAN PHOENIX HOME SALES

	Single Family			Townhouse/Condominium			Grand
First Quarter 1986	*Resale*	*New*	*Total*	*Resale*	*New*	*Total*	**Total**
Median sales price	$75,000	$88,200	$78,000	$63,000	$69,500	$65,000	$75,000
Percent change from:							
Fourth quarter 1985	0.5	1.5	0.1	0.8	3.7	0.9	-0.7
First quarter 1985	5.8	10.4	6.8	0.8	19.8	4.8	4.7
Number of sales	9,492	1,268	10,760	1,653	540	2,193	12,953
Percent change from:							
Fourth quarter 1985	-9.3	-53.2	-18.4	15.6	-27.7	0.7	-15.7
First quarter 1985	17.6	-25.0	10.2	81.6	191.9	100.3	19.3

Source: Center for Business Research, College of Business, Arizona State University; from data supplied by Marketron Services, Inc., Phoenix.

Valley Resale Home Affordability Index Tops 100

The affordability index for resale homes in the Phoenix metropolitan area jumped to 104 in the first quarter, up 10 percentage points from a fourth quarter 1985 high of 94 (see Table 1). This improvement marks the first time an affordability index has reached 100 since the Metropolitan Phoenix Housing Affordability Indexes began in 1981.

An index of 100 indicates that a median-income household is able to qualify for a median-priced home, assuming a fixed-rate, conventional, 30-year mortgage with a 15 percent downpayment, and an income qualification factor of 28 percent. The index exceeded this equilibrium point primarily because of the sharp decline in mortgage interest rates in the Phoenix area.

The local effective interest rate (which includes fees and charges, or "points") on conventional mortgage loans has been falling since mid-year 1984, dropping to 11.0 percent in the first quarter 1986, the lowest rate since the late 1970s. This decline in interest rates more than offset a small increase in median home prices. Thus, the monthly mortgage payment on a median-priced resale home fell to $710, $90 less than the monthly mortgage payment during first quarter 1981, even though the median price of a resale home increased 20 percent during the last five years.

New homes in the Valley are typically more expensive than resale homes and, therefore, less affordable. While the affordability index for new homes has remained below the resale index since the end of 1982 (see Figure I), the gap between the two indexes has widened because the median sales price of new homes has increased at a more rapid rate. The two indexes showed a 15-percentage-point difference during first quarter 1986, up from the 10-percentage-point spread of first quarter 1985. The new home index remained well below 100, moving from 80 to 89 during first quarter 1986.

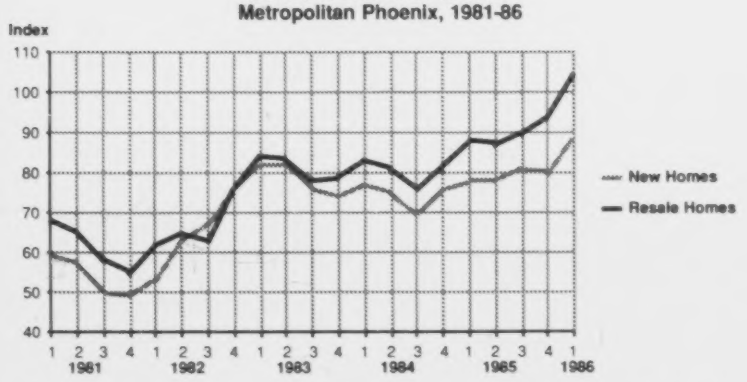
TABLE 1
HOUSING AFFORDABILITY INDEXES
Metropolitan Phoenix

Quarter	Median Sales Price	Interest Rate	Monthly Housing Payment	Median Gross Monthly Income	Affordability Index
Resale					
1st 1985	$70,900	13.4%	$810	$2,540	88
2nd 1985	72,500	13.4	820	2,560	87
3rd 1985	75,000	12.6	800	2,580	90
4th 1985	74,650	12.3	790	2,620	94[r]
1st 1986	75,000	11.0	710	2,660	104
New					
1st 1985	79,925	13.4	910	2,540	78
2nd 1985	81,150	13.4	920	2,560	78
3rd 1985	83,575	12.6	900	2,590	81[r]
4th 1985	86,875	12.3	910	2,620	80
1st 1986	88,197	11.0	840	2,660	89

[r]Revised

Source: Center for Business Research and the Arizona Real Estate Center, College of Business, Arizona State University. Interest rates are from the Federal Home Loan Bank Board *News*, and income figures are derived from the Annual Buying Survey in *Sales and Marketing Management*.

FIGURE I
HOUSING AFFORDABILITY INDEX:
NEW AND RESALE HOMES
Metropolitan Phoenix, 1981-86



Source: Center for Business Research, College of Business, Arizona State University.

COMPARISON TO NATIONAL AFFORDABILITY

National interest rates did not drop as dramatically as local interest rates during first quarter 1986, causing U.S. affordability indexes to remain less than 100. At 88, the U.S. new home index for first quarter 1986 is almost equal to the metropolitan Phoenix index of 89. Conversely, the U.S. resale home index, 98, is considerably below the metropolitan Phoenix index of 104. The difference is due primarily to resale home prices rising more rapidly nationally than in the Phoenix area. For instance, from fourth quarter 1985 to first quarter 1986, the median price of a resale home nationally increased 4.8 percent, while rising only 0.5 percent in the Valley.

OUTLOOK

Interest rates are not expected to increase during the second quarter and may, in fact, decrease further. Thus, the affordability of new and resale homes in metropolitan Phoenix could continue to improve, though not at the pace experienced during the first quarter. The gap between the affordability of new and resale homes probably will not change since the demand for larger new homes should keep their median price well above the median price of resale homes.

Jacqueline Fifield
Research Analyst

April Purchasing Indicators Stuck in Second Gear

All economic indicators were positive in April, for the third consecutive month. The new orders received, production, and price indicators recorded increases at the same level as in the previous month (see Table 1). The employment and lead-time indicators grew at a greater rate than in March, while the inventory and purchase commitment increase rates dropped a bit. Arizona's economy has been unable to move out of second gear to turn the slow growth rate into a real boom.

The stage appears set for a speed-up in the growth rate, but the spark that will set it off hasn't materialized. However, lower energy costs and interest rates may trigger greater business investment and tilt the growth curve upward. So far, 1986 has been a good, but not a sensational, economic year. The balance of the year should bring a step-up in growth, particularly if interest rates fall further, as expected.

PRICES

Prices paid for major purchased items rose in April at the same rate as in March. Although the overall inflation rate remained well under that often experienced in an expanding economy, it stubbornly continued to be higher than in almost any month of the second half of 1985. Prices paid by Arizona firms have not yet been forced down by the overall softening in energy costs, although the price increase rate remains moderate.

DELIVERY TIME

Delivery time on shipments from vendors stretched at the highest rate since December. This advance signals that economic activity is intensifying, as the flow of incoming business to vendors steps up.

INVENTORIES

Inventory levels of purchased materials grew in April, for the third consecutive month. While the rate of increase was small in each of the preceding three months, it reversed the trend of inventory cuts seen in all but two months during the second half of 1985. While inventory restocking will stimulate economic growth, the rate will have to grow substantially from that experienced in April if it is to have a major effect.

NEW ORDERS

New orders received by Arizona firms gained again, although at a slightly lower rate than in the previous three months. Yet, the month-to-month increase rate in each of the four months of 1986 was greater than in all but three of the months of 1985. While the economy continued to expand, the growth curve did not tilt upward as earlier had been predicted.

PRODUCTION

Production enjoyed an increase rate comparable to those of the previous three months. This growth was consistent with, and driven by, the new order increases.

EMPLOYMENT

Employment went up, for the 16th consecutive month, at the highest rate since September 1984. While the gains have been small over the past year, they have been consistent. The increase rate has stepped up since the beginning of the year.

PURCHASES

Purchases of materials and services by Arizona firms advanced in April, but the rate of increase was down from the previous month and the smallest since December.

– Harold Fearon

Dr. Fearon is the National Association of Purchasing Management Professor in the ASU College of Business.

TABLE 1
APRIL PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (April compared to March)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	24	67	9
Delivery time from vendors	31	61	8
Purchased materials inventory level	32	40	28
New orders received	40	42	18
Production	41	44	15
Employment	25	65	10
Purchases	39	46	15

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

Arizona Purchasing Survey

Now in its 24th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity - higher, unchanged, or lower - of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

Arizona Leading Index Up Again in March

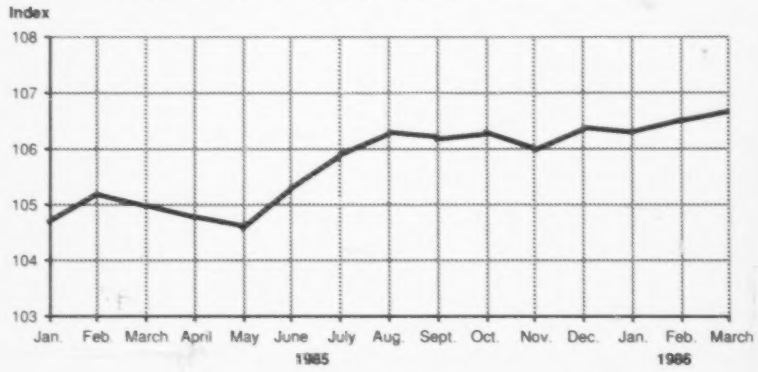
The Arizona Index of Leading Economic Indicators rose moderately in March for the second consecutive month (see Figure I). March's 0.2 percent gain brought the index to a new high of 106.7 from 106.5 in February.

Only four of the ten index components climbed in March, and only one of those - the national money supply (M2) - grew by more than a minimal amount (see Table 1). March's M2 advance, the greatest in two years, followed a large increase in February. That jump, however, had been preceded by four months of net decline.

Continuing the saw-toothed pattern of recent months, the number of unemployment insurance claims rose in March (a negative contribution to the leading index). The change in prices of sensitive materials was also moderately negative, but no other component contributed more than a slight negative amount to the index.

The net effect of the five components derived from a monthly survey of Arizona purchasing managers was near zero, with none of the indicators exhibiting much change.

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Center for Business Research, College of Business, Arizona State University.

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution+			
	Dec.	*Jan.*	*Feb.*	*Mar.*
Delivery Time*	.09	-.08	.03	.02
Inventory Levels*	.00	-.05	.09	.01
New Orders*	.05	-.07	.06	-.04
Production*	.14	-.06	-.03	-.02
Employment*	-.01	-.04	-.03	-.01
Residential Building Permits	-.10	.32	-.29	.01
Unemployment Insurance Claims	.00	-.23	.16	-.16
Average Workweek, Manufacturing	-.14	.18	-.02	-.02
Money Supply	.09	-.09	.32	.46
Change in Sensitive Materials Prices	.00	.01	-.02	-.07
OVERALL INDEX	.32	-.11	.26	.17

+The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Center for Business Research, College of Business, Arizona State University.

OUTLOOK

While only moderate in magnitude, the index's back-to-back gains in February and March were the strongest since last summer. With a 1.6 percent advance between March 1985 and March 1986, the index still is signaling moderate economic growth for 1986, similar to that experienced in Arizona since late 1984. The chance of a recession beginning before early 1987 remains less than 2 percent.

The national Index of Leading Economic Indicators again rose strongly in March; it has not declined in 10 months. In comparing the national index to the Arizona index, the inherently stronger growth in the national index must be recognized. Even after adjusting for this additional trend, however, the national index indicates a greater acceleration in economic growth. Such a pickup would only offset the sharper decline in growth that occurred nationally between mid-1984 and the end of 1985.

A continuing concern in interpreting both the Arizona and national indexes is that most of their strength has been concentrated in the financial indicators, such as money supply and stock prices. The expected improvement in manufacturing may not develop as rapidly as previously anticipated.

An early look at the April index shows no improvement in the indicators obtained from the survey of Arizona purchasing managers. The net change in these five components was again near zero.

– **Tom R. Rex**
Research Manager

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date Value	Year-to-Date Percent Change from Year Ago
GROSS STATE PRODUCT						
(In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	4th Qtr.	47.443	2.7	7.9	NA	NA
Arizona - 1982 Dollars	4th Qtr.	43.707	-0.2	5.2	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	1st Qtr.	191.6	0.0	2.0	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	March	106.7	0.2	1.6	NA	NA
BUILDING PERMITS						
(Total Dollar Value in Thousands)						
Maricopa County	Feb.	321,977	-1	-11	652,523	-8
Pima County	Feb.	91,762	64	29	143,139	11
Balance of State	Feb.	41,810	-18	6	92,996	7
Arizona	Feb.	455,549	4	-3	888,658	-5
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	Feb.	3,966	16	-29	7,410	-31
Pima County	Feb.	887	10	-24	1,469	-40
Balance of State	Feb.	972	6	-16	1,893	-16
Arizona	Feb.	5,825	10	-26	10,772	-31
HOME SALES						
Maricopa County - Number	March	5,345	40	28	12,953	19
Maricopa County - Median Price	March	76,900	2.5	7.7	75,000	4.7
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	1st Qtr.	89	11.3	14.1	NA	NA
Metropolitan Phoenix - Resale Homes	1st Qtr.	104	10.6	18.2	NA	NA
MORTGAGE INTEREST RATES						
(Conventional, 30-year, Fixed-rate)						
Maricopa County	April	9.8	-2.0	-24.6	NA	NA
POPULATION ESTIMATES						
(In Thousands)						
Maricopa County	1st Qtr.	1,881	1.3	5.1	NA	NA
Arizona	1st Qtr.	3,343	1.5	4.4	NA	NA
ELECTRICAL POWER SALES						
(In Millions of Kilowatt Hours)						
Arizona	March	2,613.2	6.5	0.8	7,758.0	-1.2

NA = Not Applicable

Source: Center for Business Research, College of Business, Arizona State University.

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John Kraft, Dean
Lee R. McPheters, Center Director
Mary Wery Garcia, Editor
James Dodson, Editorial Assistant

SHI Acquisitions
Congressional Info Service
4520 East-West Highway
Bethesda MD 20814